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Social Capital and Smoking Among Asian American Men: An Exploratory Study

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Abstract

Objectives—We examined how different dimensions of social capital (i.e., family and friend connections, neighborhood and family cohesion, family conflict) were associated with smoking behavior among a nationally representative sample of Asian American men and whether the associations varied by ethnic group.

Methods—The sample consisted of 998 adult Asian American men who participated in the National Latino and Asian American Survey from 2002 to 2003. We conducted weighted multivariate logistic regressions on data for the sample and for each of 4 ethnic subgroups (Chinese, Vietnamese, Filipino, and Other).

Results—Vietnamese American men had the highest prevalence of current smoking; Chinese American men, the lowest. After controlling for sociodemographics, socioeconomic status, acculturation, and perceived discrimination, neighborhood cohesion was inversely associated with smoking among Asian American men, and family and friend connections and family cohesion were not. An exception was family cohesion, which was associated with increased odds of smoking among Filipino American men.

Conclusions—The relationship between social capital and smoking among Asian American men varied according to specific dimensions of social capital and was ethnicity specific. These findings highlight the need for smoking prevention and cessation interventions to take into consideration the heterogeneity that exists among Asian Americans.

Cigarette smoking and exposure to environmental tobacco smoke are the leading preventable causes of illness and death in the United States, accounting for 443 000 premature deaths and $96.8 billion loss in productivity annually during 2000 through 2004.[1] Men are among those most affected, accounting for 61% of smoking-related deaths and 66.3% of economic loss.[1] The gender differences in smoking behavior and consequences are even larger among Asian American populations (i.e., people who have Chinese, Filipino,

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Contributors
S. Li and J. Delva were both responsible for the conceptualization of the study and the writing of the article. S. Li conducted all the analyses.

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Human Participant Protection
The study was considered exempt by the Institutional Review Board because it consisted of secondary analyses of deidentified publicly available data.

Vietnamese, and other Asian backgrounds), in which smoking among men is common and exchange of cigarettes is an accepted social practice, a cultural norm, and a reflection of a person's affection or respect for others.[2] Although existing studies have shown that smoking prevalence among Asian Americans as a whole is low,[3,4] smoking rates among Asian American men have been persistently higher than those among men in the general population. For example, during the past decade several studies, using non-nationally representative samples, have shown that current smoking prevalence ranges from 24.1% to 33.6% for Chinese Americans,[2,5,6] 26.8% to 35.9% for Korean Americans,[2,3] 31.6% to 40.3% for Vietnamese Americans,[2,3,7] and 24.4% to 34.6% for Filipino Americans.[3,8]

Although Asian American men face a higher risk of tobacco-related morbidity and mortality, a dearth of information is available on smoking in this community.[2,4,9] According to Maxwell et al.,[9] research on Asian American smoking is limited by the lack of quality data. On the one hand, studies using culturally and linguistically appropriate survey methodology have often recruited Asian American participants from geographic locations in which they are highly concentrated, raising the question of generalizability. On the other hand, studies that have drawn data from national probability samples have represented only English-speaking Asian Americans, which have may led to underestimates of smoking prevalence because many Asian Americans are immigrants with limited English ability and are thus excluded from national surveys. In addition, national surveys have usually aggregated Asian American subgroups into the broad category of Asian Americans because specific subgroups have insufficient sample sizes, thus precluding precise analyses. Another common shortcoming of existing studies on Asian American smoking is the focus on individual characteristics such as sociodemographics (i.e., gender, marital status), socioeconomic status (i.e., education and income), and acculturation (i.e., English language ability, food preference). Although these individual characteristics can help explain smoking behaviors, they are insufficient in themselves given that the underlying causal determinants of smoking are also influenced by social factors.[10]

In this article, we have provided 2 important contributions to the literature on cigarette smoking behavior among Asian American men. First, we remedied the data limitation found in previous studies by using a nationally representative sample who were surveyed in a culturally and linguistically appropriate way. In particular, we investigated smoking prevalence among Asian American men and the magnitude of differences by ethnic subgroup. Second, we tested a general model of smoking behavior among Asian American men that uses social capital as its theoretical framework. Our introduction of the concept of social capital—which has increasingly been used in examinations of health behaviors among the European and US general populations—enriches understanding of smoking behavior among Asian American men and fills a gap in knowledge about the smoking behavior of a US racial and ethnic minority population that has not been extensively studied.

SOCIAL CAPITAL AND SMOKING

Although the notion of social capital has increasingly been accepted in a variety of disciplines, a lack of consensus exists on its exact definition.[10] Nevertheless, of the several theoretical traditions of social capital that have informed public health research, most research in public health has adopted Putnam's[11] definition or its extensions. According to Putnam's pioneering studies, social capital consists of

> features of social life—networks, norms, and trust—that enable participants to act together more effectively to pursue shared objectives… in short, it refers to social connections and the attendant norms and trust.[11(p664–665)]

In relating social capital to physical health and subjective well-being, Helliwell and Putnam[12] indicated that social capital could be measured by the strength of ties among family, friends, and neighbors; in the workplace, church, and civic associations; or even in the Internet-based virtual community. We adopted Putnam's conceptualization of social capital for this study and operationalized it through subjective evaluation of social connections among friends, family members, and the neighborhood.

Only a few empirical studies have examined the relationship between social capital and smoking behavior; however, available evidence has suggested that social capital has a significant influence on smoking behavior. For example, in several studies on social capital and smoking in Sweden, Lindström et al.[13,14] documented a significant negative association between individual social capital (measured as either social participation or trust) and daily smoking. In addition, they found an independent and significant positive association between social capital (measured as social participation, trust, or community participation) and smoking cessation among samples of Swedish and British adult daily smokers.[15,16] Lundborg[17] found that social participation and social trust among Swedish adolescents was negatively related to the probability of smoking and illicit drug use.

Researchers measuring social capital as perceived social cohesion at the neighborhood or community level have found similar results. Greiner et al.[18] found that a higher community rating was negatively associated with smoking among adults living in Kansas. In 2 other studies, area social cohesion and safety and higher levels of social participation and trust measured at the community level were inversely associated with smoking above and beyond individual characteristics.[19,20] In a recent study in low-income neighborhoods in Santiago, Chile, Sapag et al.[21] found a significant inverse relation between trust in neighbors and tobacco smoking as well as in number of cigarettes smoked. Chuang and Chuang[22] similarly found in a study in Asia that social capital as measured by general trust and neighborhood closeness was negatively associated with smoking and drinking behaviors; however, the effect was weaker for men than for women.

Despite the increasing number of studies on social capital and smoking behavior, few have been conducted to determine whether the relationship also holds among US racial and ethnic minority populations in general and among Asian Americans in particular. Asian Americans are one of the fastest growing ethnic groups in the United States, projected to reach more than 40 million or 9.2% of the US population by 2050,[5] so the lack of knowledge regarding Asian Americans' smoking behavior—particularly that of Asian American men, who are more likely to be smokers—is problematic. Consequently, on the basis of a literature review, we adopted the concept of social capital as the conceptual framework for this explorative empirical study. Our general assumption was that an understanding of the social capital factors that affect smoking behavior could provide insights into how Asian American men respond to the different dimensions of social capital. Our findings have the potential to contribute to smoking interventions in the Asian American community and to future studies among other minority populations.

METHODS

We used data from the National Institute of Mental Health–funded National Latino and Asian American Study, a nationally representative household survey conducted between May 2002 and November 2003. The survey design and sampling procedures have been reported elsewhere.[23,24] In brief, the National Latino and Asian American Study included a nationally representative sample of individuals who were aged 18 years or older, self-identified as Latino or Asian American, and resided in households in the 50 states and Washington, DC. Trained interviewers with linguistic and cultural backgrounds similar to

those of the respondents administered the survey face to face (unless respondents requested a telephone interview) in the respondent's chosen language of English, Cantonese, Mandarin, Tagalog, Vietnamese, or Spanish.

The Asian American sample of the National Latino and Asian American Study consisted of 2095 eligible adults, representing a weighted response rate of 65.6%. For our purposes, we restricted our analytical sample to Asian American men (n = 998), which included 4 ethnic subcategories: 284 Chinese Americans, 235 Filipino Americans, 243 Vietnamese Americans, and 236 other. The "other" category included people of other Asian backgrounds (e.g., Indian, Japanese, Korean, Pacific Islander). This category was a residual one without particular theoretical significance, but we included it in the analysis for sample completeness.

Measures

Current smoking status—We determined this dependent variable by whether respondents identified themselves as smokers at the time of the interview, which is a valid indicator of smoking status in large population studies.[25,26] We coded respondents as current smokers if they reported being current smokers and as noncurrent smokers if they reported being former smokers or having never smoked or smoked on a few occasions.

Social capital—In measuring social capital, we used the structural or cognitive distinction that has been widely accepted in the literature.[27–29] The structural component encompasses the objective extent and intensity of social relations or activities, and the cognitive component encompasses subjective perceptions of the quality of social relationship such as support, reciprocity, norms, and trust.[27,29]

Specifically, we used 5 measures of social capital—family connections, friends conections, neighborhood cohesion, family cohesion, and family conflict—that represented the important aspects of the concept. In general, "the most fundamental form of social capital is the family,"[30] that is, family is the bedrock of social capital. Connections with friends and family members or relatives is a factor that was identified as constituting social capital,[31] and prior research has also conceptualized it as a component of structural social capital[12,22] that pertains to extent of connectedness and mutual support. Cognitive social capital includes the components subjective perceptions of family cohesion and social cohesion at the neighborhood level. The literature has most frequently used perception of neighborhood cohesion as a proxy for cognitive social capital.[12,32] Aside from measuring social capital as a positive value, we also followed suggestions by theorist Francis Fukuyama[27] to measure the *absence* (italics in original) of social capital; hence, we conceptualized family conflict as a lack of of social capital.

An exploratory factor analysis of items from the 5 measures of social capital listed earlier produced factor scores that on face examination appeared strongly relevant to the structural and cognitive dimensions of social capital. Statistical procedures for this work and results are described in more detail in the Results section. In sum, we took a holistic approach to our measurement of social capital, taking into account the complementary roles of structural and cognitive aspects of social capital in smoking behavior.

Covariates—The covariates we included in this study were demographic characteristics, socioeconomic status, acculturation variables, and a variable measuring perceived discrimination. All data were based on self-report. The demographic characteristics were ethnicity, age, marital status, and religion. The 4 Asian American ethnic categories included in the study were Vietnamese, Filipino, Chinese, and Other. We collapsed age into 3 categories (18–29, 30–45, and ≥46 years) to match the age distribution in the data. Marital

status was categorized as “married (currently married or cohabiting)” or “other than married (divorced, separated, widowed, never married).” We assessed religious belief by asking respondents how often they sought religious or spiritual comfort during difficult times and dichotomized this variable into “often or sometimes seek religious comfort” or “rarely or never seek religious comfort.” Socioeconomic status was measured by means of education level (“less than high school,” “high school graduate,” “some college,” and “university graduate or more”) and annual household income (low income ≤ $24 999, lower middle income = $25 000–$49 999, upper middle income = $50 000–$99 999, high income ≥ $100 000).

Acculturation is a complex and multidimensional process “by which foreign-born individuals adopt the values, customs, norms, attitudes, and behaviors of the mainstream culture.”[5(p.300),33] Measurement of acculturation for Asian American population has typically included, among other factors, English language ability and length of residency in the United States.[3,5,34–37] In this study, we assessed English language proficiency by means of 3 questions about the respondents’ ability to speak, read, and write in English (Cronbach’s α = .97). Each question had 4 possible response categories (poor, fair, good, and excellent). We summed and dichotomized scores on the 3 items to indicate low and high English proficiency, with 6 as the cutoff (poor or fair on all 3 items). Duration of residency in the United States was coded into 4 categories (1–4 years, 5–10 years, 11–20 years, and ≥20 years or born in the United States) with a 5-year cutpoint because it typically takes immigrants at least 5 years to obtain US citizenship.

Everyday discrimination—We included the variable everyday discrimination because it has been found to be associated with substance use and health conditions among Asian Americans.[38–40] We measured it by means of a 9-item scale originally used in the Detroit Area Study to measure perceptions of chronic and routine unfair treatment.[41] Item responses ranged from 1 to 6, with 1 indicating that respondents never perceived experiencing unfair treatment and 6 indicating that respondents experienced it almost every day. Cronbach’s α for our sample was .91. As in previous studies, we summed the items and then divided the total by 9,[39] resulting in a score ranging from 1 to 5.78.

Analysis

We estimated the prevalence of current smoking first for the entire sample of men and then for each Asian ethnic subgroup. We then used weighted multivariate logistic regression analyses to test whether men who were current smokers differed from men who were noncurrent smokers on the various dimensions of social capital, controlling for covariates.

We subsequently stratified the sample by ethnic subgroup and conducted separate analyses to discern similarities or differences in the associations among the 5 social capital domains and smoking behavior. We conducted all analyses with Stata version 10.0.[42] Because of the complex sampling design, we took survey design effects into account in the estimation of standard errors.[43]

RESULTS

We derived the structural components of social capital by means of principal components analysis based on a varimax rotation procedure, and the criterion applied to the identification of factors was a minimum eigen-value of 1.0. We ultimately retained 7 items that correlated with 2 orthogonal factors. The first factor, family connections, correlated with 3 Likert scale items pertaining to (1) how often participants talked on the phone or got together with relatives (5 response categories ranging from almost every day to less than once a month), (2) how much they could rely on relatives for help with a serious problem (4 response

categories ranging from a lot to not at all), and (3) how much they could open up to family and talk about their worries (4 response categories ranging from a lot to not at all; Cronbach's α = .63). The second social capital factor, friends connections, correlated with 3 Likert scale items parallel to those for family connections, with the word "family" or "relatives" replaced with "friends," and an additional question asking how often they let someone else know about their problems (Cronbach's α = .74). In combination, these 2 factors partially represented the structural aspects of a person's network of social relationships or, in the terminology of Lindström et al.,[13] the individual's social anchorage, describing the extent an individual is connected with friends and relatives.

We performed the same procedure to generate the cognitive components of social capital, which resulted in 3 factors, neighborhood cohesion, family cohesion, and family conflict. Neighborhood cohesion correlated with 5 items that assessed whether people in the neighborhood (1) could be trusted, (2) got along with each other, (3) helped in an emergency, (4) looked out for one another, and (5) felt safe alone, with 4 response categories ranging from very true to not at all true (Cronbach's α = .81). Family cohesion measured respondents' sense of family by means of 10 items related to respondents' evaluation of family members' respect for one another, value sharing, trust, loyalty, and pride, among others (Cronbach's α = .92). Family conflict correlated with 5 items concerning respondents' attitude toward their family, such as personal goals that conflicted with those of the family, arguing over different customs, or feeling lonely and isolated because of a lack of family unity (Cronbach's α = .73). The correlation coefficients among the 5 variables of social capital ranged from −0.08 to 0.17, suggesting weak correlations and precluding concerns about multicollinearity. In addition, although we did not directly assess the validity of the measurements in this study, the constructs included in the National Latino and Asian American Survey were well adapted and tested and retested among the target populations and thus have been shown to have good construct validity.[23]

Table 1 presents the weighted sample characteristics of the entire sample and for each ethnic subgroup. The overall current smoking prevalence among Asian American men was 20.1%. However, current smoking prevalence differed considerably among the 4 ethnic subgroups. Vietnamese American men had the highest smoking prevalence (29.4%), followed by Filipino American men (25.0%). Chinese American men had the lowest smoking prevalence (16.2%).

Overall, a high proportion of Asian American men had at least a university education (47.2%), but the intragroup differences were considerable. For example, 52.1% of Chinese American and 55.5% of other Asian American men had at least a university education; however, for Vietnamese American and Filipino American men, the percentages were 29.6% and 36.9%, respectively. Within each ethnic subgroup, the disparity was also quite large: 23.4% of Vietnamese American and 16% of Chinese American men had not completed high school. We observed similar trends for income, with Vietnamese American men being overrepresented among those earning less than $25 000 (36.7%) and Chinese American men's earnings being highly polarized. With regard to religion, the percentage of men who sought religious comfort in difficult times was highest among Filipino American men (64.2%) and lowest among Chinese American men (22.8%). For acculturation, on average 25.3% of Asian American men rated their English as poor or fair; however, the intragroup differences were large. For example, most Vietnamese American men (58.4%) reported their English as being poor or fair, suggesting differences in level of acculturation among Asian subgroups. An interesting finding was that the most acculturated group, Filipino American men, had the highest average score (2.10) on perceived everyday discrimination, and the least acculturated group, Vietnamese American men, reported the lowest (1.59).

As shown in Table 2, when we compared the social capital characteristics of all Asian American men who were current smokers with those of Asian American men who were noncurrent smokers, we found that smoking was inversely associated with neighborhood cohesion (odds ratio [OR] = 0.69; 95% confidence interval [CI] = 0.56, 0.84), but not with other social capital variables after controlling for all covariates. In addition, smoking was negatively associated with having some college education (OR = 0.43; 95% CI = 0.21, 0.89) and with having a university education (OR = 0.35; 95% CI = 0.14, 0.89). Individuals with upper and middle income levels ($50 000–$99 999) were less likely to be current smokers than were individuals with a low income level (< $25 000; OR = 0.35; 95% CI = 0.18, 0.68); however, we detected no significant difference between high-income (≥$100 000) and low-income individuals. Chinese American men had lower odds of smoking (OR = 0.46; 95% CI = 0.24, 0.90) than Vietnamese American men. Smoking was negatively associated with religion (OR = 0.62 95%; CI = 0.42, 0.92) but positively associated with experiences of everyday discrimination (OR = 1.41; 95% CI = 1.06, 1.89).

The analysis stratified by ethnic subgroup revealed some intriguing subgroup findings (Table 3). Consistent with the analyses for all Asian American men, neighborhood cohesion was significantly and inversely associated with smoking only among Vietnamese American men (OR = 0.56; 95% CI = 0.36, 0.89); however, the direction of the associations among all other ethnic subgroups was consistent with that of Vietnamese American men. Family cohesion was not significantly associated with smoking in the aggregate analysis, but it was positively associated with smoking among Filipino American men (OR = 2.72; 95% CI = 1.38, 5.34).

The stratified analyses also revealed diverse associations between the covariates and smoking behavior. For example, although the overall trend for higher education tended to be inversely associated with smoking, having some college education was significantly associated with smoking only among Filipino American men (OR = 0.21; 95% CI = 0.04, 0.99), and having a university education or higher was significant only for other Asian American men (OR = 0.14; 95% CI = 0.02, 0.85). Filipino American men (OR = 0.14; 95% CI = 0.02, 0.48) and other Asian American men (OR = 0.12; 95% CI = 0.03, 0.41) whose household incomes were between $50 000 and $99 999 had lower odds of smoking than men whose incomes were less than $25 000; however, the associations between income and smoking were not significant for Chinese American men, and we found some evidence of a positive association for Vietnamese American men.

We found some interesting differences for the association between acculturation and smoking. In the aggregate analysis, we did not find significant association between English proficiency and smoking behavior. However, in the stratified analysis, we found the opposite for the Filipino American and other categories. Among Vietnamese American men (OR = 0.21; 95% CI = 0.05, 0.95) and other Asian American men (OR = 0.10; 95% CI = 0.03, 0.30), those who rated English as excellent or good had significantly lower odds of being current smokers, whereas this relationship was reversed for Filipino American men (OR = 3.85; 95% CI = 1.01, 14.75) and was not significant for Chinese American men. With respect to another indicator of acculturation, duration of residency in the United States, we found that Vietnamese American men who were born or had lived in the United States for 11 or more years had greater odds of smoking than those who had been in the United States for 10 years or less (OR = 5.22; 95% CI = 1.90, 14.4). However, we found that the longer other Asian Americans had lived in the United States, the lower their odds were of smoking, a trend similar to that observed for Chinese American and Filipino American men. Finally, experiences of everyday discrimination were significantly and positively associated with smoking in the aggregate analysis but only among other Asian American men (OR = 2.67; 95% CI = 1.52, 4.71) in the stratified analysis.

DISCUSSION

In this study, we focused on 2 principal questions, 1 pertaining to the prevalence of smoking among Asian men in aggregate and by ethnic subgroup and the other pertaining to whether the concept of social capital contributed to the understanding of smoking behaviors among Asian American men apart from sociodemographics, socioeconomic status, and acculturation. Consistent with previous studies, our findings offer further evidence that although the current smoking prevalence among Asian American men might on average be relatively lower than that among non-Hispanic White men (20.1% vs 25.5%),[44] large intragroup differences exist across ethnic subgroups. In particular, we found that Vietnamese American men had the highest prevalence of current smoking (29.4%), a rate higher than that of men from any other racial or ethnic groups except American Indians and Alaska Natives.[44] This finding is consistent with those of several previous studies that have found Vietnamese Americans to have a higher prevalence of smoking than other Asian ethnic subgroups,[7,45,46] and it suggests that statistics aggregated across broad ethnic categories may mask important disparities between specific subpopulations. Moreover, the labeling of Asian Americans as “model minorities”—the perception that Asian Americans have uniformly higher levels of socioeconomic status and healthy behaviors—can lead to the misperception that Asian American health problems and psychosocial needs have already been adequately addressed.[47]

Our study has provided an initial step toward understanding the relationship between social capital and smoking among Asian American men. It is interesting to note that the structural aspects of social capital, that is, friend connections and family connections, were not significantly associated with current smoking either in the aggregate sample or in any of the ethnic subgroup categories. This finding is consistent with those of a prior study among a population in Asia in which contact with friends and relatives was not associated with either smoking or drinking behavior.[22] However, because of our study’s data limitations, we do not know whether other key aspects of structural social capital, such as association membership or social participation, have an impact on smoking behavior among Asian American men. A study conducted in Sweden revealed that the social participation aspect of structural social capital (e.g., participation in the activities of formal and informal groups) was a predictor of smoking cessation maintenance.[13] Future studies should examine the relationship between other aspects of structural social capital and smoking behavior among Asian American populations to confirm or revise the present findings.

We found mixed results for the cognitive aspects of social capital. At the neighborhood level, social cohesion was inversely associated with smoking among Asian American men, that is, individuals with a higher level of perceived neighborhood cohesion had lower odds of current smoking. This finding is consistent with those of a study of smoking among Asian Americans in California[48] and studies with other populations elsewhere.[18–20] Several mechanisms have been posited to link neighborhood cohesion and smoking behavior. First, higher neighborhood social cohesion may provide information channels through which to spread ideas about the harms of tobacco, public health campaign messages, or processes for smoking cessation.[21] Second, increased social cohesion may also enhance trust in public and governmental institutions, the bodies that are often tasked with delivery of antismoking campaigns.[49,50] Studies have suggested that people with a low level of trust are also less likely to respond to doctors’ advice and recommendations or be influenced by antismoking public health campaigns.[20,49] Third, social cohesion may promote social control (i.e., societal imposition of sanctions against smoking behavior) over unhealthy behaviors and reinforce norms against smoking by increasing the cost to individuals.[17,49]

Our findings also revealed that neighborhood cohesion was particularly relevant for Vietnamese American men. The subgroup analysis showed that although a trend suggested that higher levels of neighborhood cohesion were associated with lower odds of being a smoker among all 4 ethnic subgroup categories, the association was only significant for Vietnamese American men. The failure of this association to reach significance among the other 3 ethnic subgroups might indicate a power problem resulting from relatively small sample sizes. However, with a similar sample size, the significant effect of neighborhood cohesion on smoking among Vietnamese men highlights the importance of neighborhood cohesion in this community. One previous study on the adaptation of Vietnamese American youths in school and in subsequent years concluded that the cultural orientation of social capital, including family values, work ethic, and community involvement, is crucial for the successful adaptation of younger-generation immigrants and perhaps more important than human capital.[51] Another study has also noted that faith and cohesion in the Vietnamese community contributed significantly to its ability to rebuild quickly after Hurricane Katrina.[52] Both of these studies related the significance of community for Vietnamese Americans to their history of immigration. Unlike many other Asian American ethnic subgroups who emigrated from their country of origin voluntarily, most Vietnamese were forced out of their country as refugees as a result of the Vietnam War. They immigrated into the United States en masse in a short period of time with little human or financial capital or any preexisting Vietnamese community network where they were resettled. To survive this sudden change and uncertainty, they clustered in close proximity, staying united and connected with a high degree of consensus on values and behaviors in their communities. Hence, it is plausible that neighborhood norms and cultural expectations in the Vietnamese community have been considerable protective forces against unhealthy behaviors such as smoking among its members. Qualitative studies in this community could provide further insights into how neighborhood cohesion may help prevent smoking among Vietnamese Americans. Other studies could also examine whether neighborhood cohesion matters, particularly in immigrant communities who shared Vietnamese Americans' resettlement experiences (e.g., Cubans, Laotians, Cambodians).

In contrast to the significant effects of neighborhood cohesion, neither family cohesion nor family conflict was salient for smoking among Asian American men. This finding extends some previous research indicating that family relationships might have more significant effects on smoking among women than among men.[53–55] For example, among Mexican American women, lower family cohesion has been found to be associated with higher smoking rates, independent of acculturation.[54] Another study found that European American adolescent girls were more likely to smoke cigarettes when they had greater family conflict, which was not observed among European American boys.[55] Studies among Asian Americans have also shown that women may be more likely to be influenced by family factors than by neighborhood conditions.[48,56,57] In our study, the reasons why family-level factors were not associated with smoking among Asian American men were unclear. A plausible explanation might be that the cigarette smoking behavior of Asian American men may be less influenced by family members than by the strong cultural norms that exist in the community in which they live. Future studies should further explore the ways in which family cohesion differentially influences smoking behavior between men and women and how the influence of family compares with that of neighborhood social cohesion among Asian Americans.

Contrary to expectation, we found that family cohesion and smoking were positively associated with increased odds of smoking among Filipino American men. We do not know the exact reason for this finding, but prior research has suggested that Filipino American cigarette smokers may have more traditional Filipino values and be less acculturated than former and never smokers.[8] Traditional Filipino families emphasize a deference to authority,

a desire to avoid confrontation, and an emphasis on family commitment and cohesion,[58] which, in combination with a belief that smoking is part of growing up, of being a man, and of looking mature among Filipino men,[8] might influence other male family members to take up smoking. Future studies should more closely examine the potential link between family cohesion and smoking among Filipino men and how the influence of family compares or competes with that of neighborhood cohesion.

Our findings have important implications for both research and public policy. Theoretically, by introducing the social capital concept, we have contributed to an understanding of which aspects of social capital might prevent smoking behavior (e.g., those generated by friendship and kinship compared with those generated by neighborhood conditions). Our finding that neighborhood cohesion was protective against smoking among Asian American men suggests a potential target for public policymakers. For example, smoking control interventions targeting Asian American men might have a better chance of succeeding if community factors are taken into account in the design and implementation of programs.

Limitations

Our findings should be considered in light of the following limitations. First, the data are cross-sectional, indicating that the relationships between social capital and smoking need to be cautiously interpreted as associations rather than causality. For example, although we presumed that a higher level of neighborhood cohesion led to decreased smoking, it might be that nonsmoking individuals were more likely to cohabit in a cohesive neighborhood. In addition, higher neighborhood cohesion might also be a marker of social inclusion and higher social status,[48,59] both of which could prevent men from smoking. Additional research is needed to shed more light on the direction of these associations and causal mechanisms between neighborhood cohesion and smoking behavior.

Second, our sample was limited in terms of social capital variables, thus reducing the comparability and generalizability of our findings. Noting the multidimensional nature of social capital, we used multiple composite variables to represent social capital; yet, given our reliance on information available in a secondary dataset, the measurement of social capital failed to capture some other important aspects of social capital, such as social participation or associational membership. This partial measurement may have caused some problems (e.g., biasing the results, rendering the results uncomparable with other studies, or both). Future researchers in this field should consider more sophisticated ways to operationalize the social capital concept beyond the current operationalizations so that more definitive conclusions can be drawn regarding the implications of social capital on cigarette smoking behaviors.

Third, the sample size for each of the 4 ethnic subgroups was relatively small, which is not a problem for the aggregate analyses but might have resulted in decreased statistical power in the stratified subgroup analysis, rendering some of the estimates insignificant. In addition, the other Asian category consisted of a heterogeneous grouping of men of Asian American origin, therefore prohibiting a more precise understanding of how social capital was associated with smoking in these ethnic groups. Further studies with larger samples of men from various Asian American ethnicities are needed to confirm or disprove our findings.

Conclusions

We showed that although on average the prevalence of smoking among Asian American men is lower than that of other groups in the United States and of the male population of Asian countries, intragroup differences remain considerably high and constitute a public

health problem of concern. Neighborhood cohesion may contribute to a reduction in smoking behaviors among Asian American men, particularly Vietnamese American men.

However, both family-level factors (i.e., family cohesion and family conflict) and the structural aspect of social capital (i.e., friends and family connections) may not be related to smoking among Asian American men. Understanding whether and how specific aspects of social capital may be associated with smoking may enhance the effectiveness of tobacco prevention and cessation interventions targeting Asian American men.

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TABLE 1

Weighted Sample Characteristics of Asian American Men: National Latino and Asian American Survey, 2002–2003

Characteristic	All Asian American (n = 998), % (SE) or Mean ±SE	Vietnamese American (n = 243), % (SE) or Mean ±SE	Filipino American (n = 235), % (SE) or Mean ±SE	Chinese American (n = 284), % (SE) or Mean ±SE	Other (n = 236), % (SE) or Mean ±SE
Current smoking prevalence	20.1 (1.7)	29.4 (3.1)	25.0 (3.2)	16.2 (2.9)	17.1 (3.3)
Education					
< high school	12.5 (1.4)	23.4 (2.4)	9.2 (1.8)	16.0 (3.5)	7.8 (1.7)
High school graduate	18.4 (2.3)	21.0 (4.2)	28.1 (3.4)	12.5 (3.0)	16.4 (3.3)
Some college	21.9 (1.7)	25.9 (2.9)	25.9 (2.6)	19.3 (3.6)	20.2 (3.1)
≥ university graduate	47.2 (2.5)	29.6 (5.1)	36.9 (4.5)	52.1 (5.0)	55.5 (4.1)
Household income, $					
< 25 000	20.5 (1.8)	36.7 (3.2)	12.0 (2.6)	25.6 (4.1)	15.9 (2.7)
25 000–49 999	19.7 (1.7)	21.1 (3.2)	14.6 (2.3)	16.9 (2.7)	24.3 (3.4)
50 000–99 999	30.3 (1.9)	24.4 (4.1)	44.1 (3.3)	20.6 (2.7)	31.8 (3.8)
≥100 000	29.5 (1.8)	17.8 (3.1)	29.3 (4.4)	36.9 (3.3)	27.9 (3.7)
Age, y					
18–24	15.4 (1.7)	15.4 (4.8)	15.4 (3.3)	15.4 (3.4)	15.4 (3.0)
25–39	38.1 (2.3)	39.3 (4.3)	36.8 (4.9)	38.7 (5.2)	38.2 (4.0)
40–59	33.2 (2.0)	32.4 (4.2)	32.5 (3.8)	33.8 (3.6)	33.2 (4.1)
≥ 60	13.3 (2.0)	12.9 (2.9)	15.3 (2.9)	12.1 (2.6)	13.2 (3.2)
Marital status					
Other than married	32.1 (2.3)	67.5 (3.8)	69.9 (3.5)	67.6 (2.9)	67.2 (4.7)
Married	67.9 (2.3)	32.5 (3.8)	30.1 (3.5)	32.4 (2.9)	32.8 (4.7)
Seek religious comfort					
Often or sometimes	57.7 (2.5)	34.1 (3.9)	64.2 (3.5)	22.8 (3.4)	47.5 (4.2)
Rarely or never	42.3 (2.5)	65.9 (3.9)	35.8 (3.5)	77.2 (3.4)	52.5 (4.2)
English proficiency					
Poor or fair	25.3 (2.4)	58.4 (4.2)	9.9 (3.3)	37.6 (5.2)	13.1 (3.1)
Excellent or good	74.7 (2.4)	41.6 (4.2)	90.1 (3.3)	62.4 (5.2)	86.9 (3.1)
Duration of residency in the United States, y					
1–4	13.5 (2.2)	16.1 (4.3)	9.8 (2.7)	13.6 (3.9)	14.8 (3.1)

Characteristic	All Asian American (n = 998), % (SE) or Mean ±SE	Vietnamese American (n = 243), % (SE) or Mean ±SE	Filipino American (n = 235), % (SE) or Mean ±SE	Chinese American (n = 284), % (SE) or Mean ±SE	Other (n = 236), % (SE) or Mean ±SE
5–10	12.5 (1.5)	24.7 (4.3)	8.6 (1.6)	13.8 (2.8)	9.5 (2.5)
11–20	25.5 (1.7)	26.0 (3.7)	20.7 (3.1)	29.3 (3.2)	25.2 (2.9)
≥ 20 or US-born	48.5 (3.1)	33.2 (5.8)	61.0 (3.8)	43.3 (5.1)	50.5 (4.0)
Discrimination	1.92 ±0.04	1.59 ±0.05	2.10 ±0.08	1.87 ±0.05	1.96 ±0.08

TABLE 2

Differences in Social Capital Characteristics Between Asian American Smokers and Nonsmokers (n = 906): National Latino and Asian American Survey, 2002–2003

Characteristic	OR (95% CI)
Social capital[a]	
Friend connection	1.06 (0.80, 1.39)
Family connection	1.21 (0.95, 1.54)
Neighborhood cohesion	0.69 (0.56, 0.84)
Family cohesion	1.00 (0.75, 1.33)
Family conflict	1.01 (0.85, 1.22)
Ethnicity	
Vietnamese (Ref)	1.00
Filipino	1.38 (0.70, 2.71)
Chinese	0.46 (0.24, 0.90)
Other	0.75 (0.41, 1.38)
Education	
< high school (Ref)	
High school graduate	0.82 (0.37, 1.85)
Some college	0.43 (0.21, 0.89)
≥ university graduate	0.35 (0.14, 0.89)
Household income, $	
< 25 000 (Ref)	1.00
25 000–49 999	0.81 (0.40, 1.64)
50 000–99 999	0.35 (0.18, 0.68)
≥ 100 000	0.91 (0.47, 1.77)
Age, y	
18–29 (Ref)	1.00
30–45	1.44 (0.74, 2.79)
≥ 46	1.19 (0.55, 2.60)
Marital status[b]	0.90 (0.50, 1.62)
Religion[b]	0.62 (0.42, 0.92)
English (poor or fair)[b]	0.63 (0.38, 1.05)
Duration of residency in the United States	
≤ 10 y (Ref)	1.00
≥ 11 y or US-born	0.81 (0.48, 1.36)
Discrimination[c]	1.41 (1.06, 1.89)

Note. CI = confidence interval; OR = odds ratio. All variables were entered simultaneously into the regression analysis. Collinearity was checked and found to be insignificant.

[a]Social capital variables were normalized; continuous factor scores with a mean of zero and a standard deviation of 1.

[b]The corresponding reference categories are marital status (other than married), religion (does not seek religious comfort in difficult times), and English (poor or fair).

[c] Discrimination is a continuous variable, derived from the mean of 9 items.

TABLE 3

Differences in Social Capital Characteristics Between Smokers and Nonsmokers by Ethnicity: National Latino and Asian American Survey, 2002–2003

Characteristic	Vietnamese American (n = 223), OR (95% CI)	Filipino American (n = 224), OR (95% CI)	Chinese American (n = 246), OR (95% CI)	Other (n = 211), OR (95% CI)
Social capital				
Friend connection	0.73 (0.44, 1.21)	1.07 (0.67, 1.71)	1.18 (0.60, 2.30)	1.48 (0.80, 2.73)
Family connection	1.19 (0.76, 1.86)	1.21 (0.64, 2.29)	1.10 (0.76, 1.60)	0.93 (0.54, 1.59)
Neighborhood cohesion	0.56 (0.36, 0.89)	0.67 (0.40, 1.07)	0.52 (0.26, 1.04)	0.60 (0.32, 1.10)
Family cohesion	0.72 (0.43, 1.21)	2.72 (1.38, 5.34)	0.79 (0.54, 1.15)	1.10 (0.68, 1.81)
Family conflict	0.70 (0.42, 1.16)	1.08 (0.70, 1.64)	1.15 (0.73, 1.80)	0.91 (0.47, 1.79)
Education				
< high school	1.00	1.00	1.00	1.00
High school graduate	0.58 (0.15, 2.26)	1.19 (0.17, 8.33)	0.62 (0.12, 3.26)	0.69 (0.13, 3.61)
Some college	1.36 (0.35, 5.23)	0.21 (0.04, 0.99)	0.38 (0.05, 2.73)	0.27 (0.05, 1.30)
≥ university graduate	0.15 (0.03, 0.77)	0.26 (0.03, 2.12)	0.56 (0.08, 3.82)	0.14 (0.02, 0.85)
Income (past y), $				
< 25 000 (Ref)	1.00	1.00	1.00	1.00
25 000–49 999	0.36 (0.11, 1.22)	0.58 (0.16, 2.08)	0.86 (0.20, 3.68)	1.38 (0.38, 4.99)
50 000–99 999	1.77 (0.51, 6.18)	0.14 (0.04, 0.48)	0.45 (0.09, 2.34)	0.12 (0.03, 0.41)
≥ 100 000	1.39 (0.28, 6.98)	0.66 (0.20, 2.15)	0.61 (0.18, 2.09)	2.42 (0.79, 7.41)
Age, y				
18–29 (Ref)	1.00	1.00	1.00	1.00
30–45	2.26 (0.52, 9.79)	0.69 (0.22, 2.18)	5.62 (1.12, 28.16)	0.43 (0.08, 2.23)
≥ 46	0.49 (0.07, 3.44)	0.44 (0.11, 1.82)	10.16 (1.72, 60.02)	1.42 (0.32, 6.38)
Marital status (married = 1)[a]	1.51 (0.48, 4.76)	0.89 (0.47, 1.70)	0.69 (0.19, 2.53)	0.71 (0.16, 3.08)
Religion (belongs to a religion = 1)[a]	0.42 (0.16, 1.06)	1.16 (0.57, 2.36)	0.23 (0.06, 0.91)	0.60 (0.23, 1.55)
English (proficient = 1)[a]	0.21 (0.05, 0.95)	3.85 (1.01, 14.75)	1.59 (0.44, 5.79)	0.10 (0.03, 0.30)
Duration of residency in the United States[a]				
1–10 y (Ref)	1.00	1.00	1.00	1.00
≥ 11 y or US-born	5.22 (1.90, 14.4)	0.50 (0.16, 1.51)	0.92 (0.40, 2.12)	0.33 (0.12, 0.91)
Discrimination[b]	1.08 (0.48, 2.42)	1.51 (0.89, 2.56)	1.04 (0.58, 1.86)	2.67 (1.52, 4.71)

Note. All variables were entered simultaneously into the regression analysis. Also, sample sizes for each of the populations are slightly smaller than those shown earlier as a result of listwise deletion of cases when conducting the analyses with all the variables entered simultaneously.

[a]The corresponding reference categories are marital status (other than married), religion (does not seek religious comfort in difficult times), and English (poor or fair).

[b]Discrimination is a continuous variable, derived from the mean of 9 items.